PATENT
Attorney Docket No. 38105.830026.US0

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:	
Bateman, Blane R.	Examiner: Karacsony, Robert
Serial No. 10/776,497	Art Unit: 2821
Filed: February 10, 2004	
For: WIRELESS ACCESS POINT WITH ENHANCED COVERAGE	

AMENDED APPEAL BRIEF

Honorable Commissioner of Patents and Trademarks
Alexandria, VA 22313

Sir:

This is an appeal from the decision of the Examiner mailed on September 17, 2007 finally rejecting claims 1-20. This Amended Appeal Brief is respectfully submitted in response to the Notification of Non-Compliant Appeal Brief, mailed April 15, 2008.

REAL PARTY IN INTEREST

The real party in interest in this appeal is Centurion Wireless Technologies, Inc., as evidenced by an Assignment filed at Reel 014980, Frame 0741.

RELATED APPEALS AND INTERFERENCES

There are no appeals or interferences that are related to this case.

STATUS OF THE CLAIMS

Claims 1-20 remain in this application.

This appeal is taken from the final rejection of claims 1-20.

No claims are allowed.

STATUS OF AMENDMENTS

An Amendment and Response was filed on June 22, 2007 in response to an April 18, 2007 Office Action. The Examiner submitted a Final Office Action on September 17, 2007. An Amendment After Final Rejection was filed on October 29, 2007. In a November 8, 2007 Advisory Action, the Examiner stated that the October 29, 2007 Amendment did not place the claims in condition for allowance but would be entered for purposes of appeal.

SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is an independent claim, from which claims 2-12 each ultimately depend. The preamble of claim 1 is directed to an enhanced wireless access point. Claim 1 requires an access point. (Page 4, lines 11-20). Claim 1 further recites the limitation of at least one omni directional antenna coupled to the access point. (Page 4, lines 15, 16). Claim 1 also includes at least one ground plane mounted on at least one substrate releasably coupled to the access point and radio frequency coupled to at least one of the at least one omni directional antenna, such that when the at least one ground plane is coupled to the access point the at least one omni directional antenna functions as a directional antenna to shape a coverage area of the access point and such that when the at least one ground plane is not coupled to the access point the at least one omni direction antenna provides an omni directional coverage area. (Page 5, lines 17-19; page 6, lines 18-21).

Claims 1-12 do not recite a means plus function limitation pursuant to 35 U.S.C. § 112(6).

Claim 13 is an independent claim from which claims 14-16 ultimately depend. The preamble of claim 13 relates to a wireless gateway. Claim 13 recites an access point. (Page 4, lines 11-20). Claim 13 then recites that the access point comprises means for providing an omni directional radio frequency pattern. (Page 4, lines 15-25). Claim 13 then requires means releasably coupled to the access point for converting the omni directional

radio frequency pattern to a directional radio frequency pattern, such that when the means detachably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is coupled to the access point the at least one omni directional antenna functions as a directional antenna to shape a coverage area of the access point and such that when the means detachably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is not coupled to the access point the at least one omni direction antenna provides an omni directional coverage area. (Page 6, lines 1-28; page 7, lines 25-28; page 8, lines 1-5).

Claim 13 recites a means "for providing an omni directional radio frequency pattern", which is a means plus function limitation pursuant to 35 U.S.C. § 112(6). Insufficient structure is disclosed within the limitation for performing the recited function of accessing the first and second deformation members to create at least first and second deformation cavities. Accordingly, the limitation must be construed under 35 U.S.C. § 112(6). Appellant's specification, at page 4, lines 15-25, and Figures 3, 4, 9A, 9B, and 9C, identify a number of exemplary embodiments that define the means as: "a conventional dipole omni directional antenna, but could be other types of omni directional antenna, such as, for example, a multiband dipole antenna, PLB micro strip antenna, PIFA, dielectric antenna, and the like. Optionally (and desirably), access point 302 also comprises a second omni directional antenna 306 shown in phantom. As shown, second omni directional antenna 306 is oriented perpendicular to antenna 304, but this is not necessary to obtain the benefits of the present invention. Access points 302 are typically designed with two or more equivalent antenna to reduce antenna interference due to multipath fading and to provide diversity, such as, for example, polarization and pattern diversity."

Claim 13 further recites a means "releasably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern, such that when the means detachably

coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is coupled to the access point the at least one omni directional antenna functions as a directional antenna to shape a coverage area of the access point and such that when the means detachably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is not coupled to the access point the at least one omni direction antenna provides an omni directional coverage area." This limitation is which is a means plus function limitation pursuant to 35 U.S.C. § 112(6). Insufficient structure is disclosed within the limitation for performing the recited function of accessing the first and second deformation members to create at least first and second deformation cavities. Accordingly, the limitation must be construed under 35 U.S.C. § 112(6). Appellant's specification, at page 6, lines 1-28, page 7, lines 25-28, and page 8, lines 1-5, identifies a number of exemplary embodiments that provide exemplary embodiments of the means. In particular, the means is generally presented as one or more substrates that are removably connected to the access pointing one or more various positions. In one embodiment, referring generally to Figures 3 and 4, ground plane 312 is mounted a distance L from omni directional antenna(s) 304 (and 306). The distance L may be ¼ wavelength. Other distances can be used. L is less then ¼ wavelength for some frequency bands, while L may be greater than ¼ wavelength for other frequency bands. The ground plane 312 should be about ½ wavelength in width, but could be more or less as a matter of choice. While ground plane 312 could have any number of larger dimensions, such as if one wished to have a single ground plane for multiple antenna in enhanced wireless access point 300. The use of ground planes 312 converts the relatively lower gain omni directional antenna 304 and the optional relatively lower gain omni directional antenna 306 into relatively higher gain directional antennas directed as shown by arrow A. Further, strategic placement of ground plane 312 behind antenna 304 and/or 306 allows for steering of the direction. If substrate 308 is removably

connected to access point 302, such as when connectors 310 are snap lock connectors, clamps, or guides, access point 302 is convertible between a relatively lower gain omni directional device and a relatively higher gain directional device, without the addition of expensive removable antennas, electrical connections, cables, and the like. With reference to FIG. 7, a combination wireless gateway 700 is shown. Combination wireless gateway 700 comprises an access point 702, a first access point antenna 704, a second access point antenna 706, and one ground plane 708 associated with second access point antenna 706. In this case, placement of ground plane 708 causes omni directional second access point antenna 706 to function as a directional antenna, which direction can be steered by placement of ground plane 708. First access point antenna 704, while influenced in part by ground plane 708, generally continues to function as a relatively lower gain omni directional antenna.

Claims 14-16 do not recite means plus function limitations, pursuant to 35 U.S.C. § 112(6), in addition to those set forth in claim 13 and discussed hereinabove.

Claim 17 is an independent claim, from which claims 18, 19 and 20 each ultimately depend. The preamble of claim 17 is directed to a wireless gateway. Claim 17 requires an access point that is adapted to connect to a network. (Page 7, lines 7-9). Claim 17 also recites a bracket and requires the bracket to be releasably coupled to the access point. (Page 5, lines 5-8). Claim 17 recites that the access point further comprises: a first omni directional antenna; and a second omni directional antenna. (Page 4, lines 15-21). Claim 17 also recites that the bracket further comprises: a first ground plane such that when the bracket is coupled to the access point, the first ground plane causes the first omni directional antenna to exhibits a first directional antenna radiation pattern and when the bracket is detached from the access point, the first omni directional antenna exhibits a first omni directional antenna radiation pattern. (Page 8, lines 6-22).

Claims 17-20 do not recite a means plus function limitations pursuant to 35 U.S.C. § 112(6).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

A. The Examiner rejected claims 1-15 and 17-19 under 35 U.S.C. § 102(e) as being anticipated by United States Patent Number 7,119,744 ("Theobold").

B. The Examiner rejected claims 16 and 20 under 35 U.S.C. § 103(a) as being unpatentable over Theobold in further view of United States Patent Publication Number 2004/0169612 ("Song, et al.").

ARGUMENT

A. Claims 1-15 and 17-19 are patentable under 35 U.S.C. § 102(e) as being anticipated by United States Patent Number 7,119,744 ("Theobold").

The Examiner incorrectly rejected claims 1-15 and 17-19 under 35 U.S.C. § 102(e) as being anticipated by Theobold. Claim 1 specifically recites that:

> at least one ground plane mounted on at least one substrate releasably coupled to the access point and radio frequency coupled to at least one of the at least one omni directional antenna, such that **when the at least one ground plane is coupled to the access point the at least one omni directional antenna functions as a directional antenna to shape a coverage area of the access point and such that when the at least one ground plane is not coupled to the access point the at least one omni direction antenna provides an omni directional coverage area.**

Accordingly, the position and orientation of the at least one ground plane is claimed with respect to the at least one omni directional antenna so that the omni directional antenna functions as a directional antenna, which then shapes the coverage area of the access point. These are limitations on the claims, relating specifically to the structure and orientation of the device, such that performance is altered. Therefore such limitations cannot be dismissed as mere "intended use language."

The Theobold reference teaches an access point that incorporates a passive antenna structure 20 to isolate pairs of antennae, operating on different channels. The passive antenna does not cause the individual antennae 12 or 14 to operate as directional antennae. The passive antenna is comprised of absorbing foam 22 and metal reflectors 24. The Theobold specification is devoid of disclosure that indicate that positioning of the metal reflectors cause them to serve as ground planes in a manner that result in the antennae operating as directional antennae. Specifically, the figures depict the metal reflectors as lines on a top surface of the passive antenna 20. There is no indication of the size or shape of the reflectors, which is taught by the present appellant as being relative to causing an antenna to operate as a directional antenna. Moreover, the orientation of the crossed reflectors causes uneven distances between the individual antennae and the surfaces of the reflectors. One of skill in the art would certainly appreciate, therefore, that such a structure cannot teach or otherwise disclose the transition of an omni directional antenna to a directional antenna. In the end, Theobold teaches the use of multiple antenna to encircle a periphery of the access point. In this manner, Theobold does not teach the shaping of the coverage area for its access point, as specifically claimed within claim 1 of the present application.

The Theobold reference specifically teaches a means for selectively varying signal isolation that is adapted to switch between a sectorized antenna configuration and an antenna array configuration. Accordingly, the antenna system starts as an array and is transformed into a sector antenna when the isolation mechanism is in place. However, the use of both an array and sector antenna imply directional antenna patterns. In the array, the antennas are in fact interconnected to increase gain in a particular direction. Theobold simply presents the array elements as individual sectors when the isolation mechanism is in place. Appellant's claimed system employs independent antennas, which are neither an array nor a sector. Rather, appellant's system employs a diversity antenna pair that either provide omni or directional

coverage. The ground plane of appellant's system is, therefore, quite different from the isolation device of Theobold, resulting in two different antenna systems.

Anticipation under 35 U.S.C. § 102 focuses on the questions of whether or not a claim reads on the product or process disclosed by a prior art reference, not what the reference broadly "teaches." Kalman v. Kimberly-Clarke Corp., 713 F.2d 760 (Fed. Cir. 1983). "For a prior art reference to anticipate in terms of 35 U.S.C. § 102, every element of the claimed function must be identically shown in a single reference." Diversitech Corp. v. Century Steps, Inc., 850 F.2d 675 (Fed. Cir. 1988); Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987) (A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference). The differences between the Theobold device and that claimed within claim 1 are substantial and significant. Accordingly, claim 1 is believed to be patentably distinct from the prior art. Claims 2-12 each ultimately depend from amended claim 1 and are believed to be allowable for at least the reasons set forth herein with respect to claim 1.

Claims 13 and 17 are independent and each essentially contain the limitation of claim 1 quoted hereinabove. Claims 13 and 17 are, therefore, believed to be allowable for at least the reasons set forth herein with respect to claim 1. Claims 14-16 depend ultimately from claim 13 and claims 18-20 each depend from claim 17. Accordingly, claims 14-16 and 18-20 are also believed to be allowable for similar reasons. The Examiner is respectfully requested to reconsider and allow the aforementioned claims.

The rejection of claims 1-15 and 17-19 under 35 USC § 102(e) should be reversed.

B. Claims 16 and 20 are patentable under 35 U.S.C. § 103(a) over Theobold in further view of Song, et al.

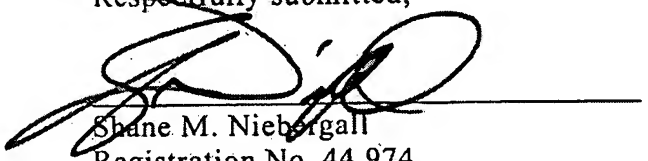
The Examiner rejected claims 16 and 20 under 35 U.S.C. § 103(a) as being obvious and unpatentable over Theobold in further view of United States Patent Publication Number 2004/0169612 ("Song, et al."). These rejections are in error. Specifically, the appellant has demonstrated herein how Theobold does not provide the relevant teaching suggested by the Examiner. The Song et al. reference does not make up for Theobold's shortcomings in these areas. Accordingly, as the cited prior art do not teach or otherwise disclose the claimed subject matter, claims 16 and 20 are believed to be in condition for allowance.

Request:

Reversal of the Examiner's final rejection of claims 1-15 and 17-19 under 35 U.S.C. § 102(e) as being anticipated by the Theobold reference, and claims 16 and 20 under 35 U.S.C. § 103(a) as being obvious over Theobold in further view of the Song, et al. reference, is respectfully requested for the above-stated reasons.

Signed this 1st day of May, 2008.

Respectfully submitted,



Shane M. Niebergall
Registration No. 44,974
ATTORNEY FOR APPELLANTS
HOLLAND & HART LLP
Post Office Box 8749
555 17th Street, Suite 3200
Denver, Colorado 80201
(303) 295-8034

CLAIMS APPENDIX

The Claims involved in this Appeal read as follows:

1. An enhanced wireless access point, comprising:

an access point;

at least one omni directional antenna coupled to the access point; and

at least one ground plane mounted on at least one substrate releasably coupled to the access point and radio frequency coupled to at least one of the at least one omni directional antenna, such that when the at least one ground plane is coupled to the access point the at least one omni directional antenna functions as a directional antenna to shape a coverage area of the access point and such that when the at least one ground plane is not coupled to the access point the at least one omni direction antenna provides an omni directional coverage area.

2. The enhanced wireless access point according to claim 1, wherein the at least one omni directional antenna comprises at least one of a dipole, a monopole, a printed circuit board antenna, a planar inverted F antenna, a multiband dipole, a PLB microstrip antenna, and a dielectric antenna.

3. The enhanced wireless access point according to claim 1, wherein the at least one omni directional antenna comprises a plurality of omni directional antennas.

4. The enhanced wireless access point according to claim 3, wherein the plurality of omni directional antennas are arranged to provided diversity.

5. The enhanced wireless access point according to claim 3, wherein the at least one ground plane comprises a plurality of ground planes.

6. The enhanced wireless access point according to claim 1, wherein the at least one omni directional antenna comprises a first number of omni directional antennas and the at least one ground plane comprises a second number of ground planes where the first number of omni directional antenna is larger than the second number of ground planes.

7. The enhanced wireless access point according to claim 1, wherein the at least one omni directional antenna comprises two omni directional antennas arranged to provided diversity.

8. The enhanced wireless access point according to claim 7, wherein the at

least one ground plane comprises one ground plane associated with one of the two omni directional antennas.

9. The enhanced wireless access point according to claim 7, wherein the at least one ground plane comprises two ground planes, each ground plane associated with a respective one of the omni directional antennas.

10. The enhanced wireless access point according to claim 1, wherein the at least one substrate is a bracket.

11. The enhanced wireless access point according to claim 1, wherein the access point comprises a back plane and the at least one ground plane is mounted on the back plane.

12. The enhanced wireless access point according to claim 1, wherein the at least one ground plane is placed to steer a radiation pattern associated with the at least one omni directional antenna.

13. A wireless gateway, comprising:

an access point;

the access point comprises means for providing an omni directional radio frequency pattern; and

means releasably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern, such that when the means detachably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is coupled to the access point the at least one omni directional antenna functions as a directional antenna to shape a coverage area of the access point and such that when the means detachably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is not coupled to the access point the at least one omni direction antenna provides an omni directional coverage area.

14. The wireless gateway according to claim 13, wherein the means for providing an omni directional radio frequency pattern is at least one omni directional antenna.

15. The wireless gateway according to claim 13, wherein the means releasably

coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is at least one ground plane.

16. The wireless gateway according to claim 13, wherein the means releasably coupled to the access point for converting the omni directional radio frequency pattern to a directional radio frequency pattern is about 1/4 wavelength from the means for providing an omni directional radio frequency pattern.

17. A wireless gateway, comprising:

an access point;

the access point adapted to connect to a network;

a bracket;

the bracket releasably coupled to the access point; and the access point further comprises:

a first omni directional antenna; and

a second omni directional antenna;

the bracket further comprises:

a first ground plane;

such that when the bracket is coupled to the access point, the first ground plane causes the first omni directional antenna to exhibits a first directional antenna radiation pattern and when the bracket is detached from the access point, the first omnidirectional antenna exhibits a first omni directional antenna radiation pattern.

18. The wireless gateway according to claim 17, wherein the first ground plane causes the second omni directional antenna to exhibit a directional antenna radiation pattern.

19. The wireless gateway according to claim 17, wherein the bracket comprise a second ground plane and the second ground plane causes the second omni directional antenna to exhibit a section directional antenna radiation pattern.

20. The wireless gateway according to claim 17, wherein when the bracket is releasably coupled to the access point, the first ground plane is about I/4 wavelength from the first omni directional antenna.

EVIDENCE APPENDIX

Not applicable.

RELATED PROCEEDINGS APPENDIX

Not applicable.